



## **Maternal and Child Health Information Internet-query Module (MatCHIIM) Nevada's Scenario**

Nevada's situation was to port the MatCHIIM application from UNIX to the Windows NT Platform. Porting involved changes within the MatCHIIM configuration files, all static and dynamic web pages, and Java Script modules. NT recognizes paths differently than UNIX based systems so changes were modified to the UNC (Uniform Naming Convention). SAS Datasets were created using Nevada variables as opposed to Utah's variables. There were two SAS modules that were used to recode the SAS datasets in order to provide the end user with Nevada's statistical data.

Nevada used Utah's main interface. The static as well as dynamic pages were also modified to provide Nevada content. Additional pages were created to enhance the user friendliness to the end user. The elimination of a dual interface system was also modified to better suit Nevada's needs. We eliminated the logon module and decided to handle security through Windows NT security as opposed to requiring the user to provide a name and password to be able to drill down to specific information for the dynamic portion of MatCHIIM.

Testing and documenting the system took a considerable amount of time to ensure accuracy of results. Approximately 13 weeks of man-hour time went into modifying, testing, and implementing MatCHIIM into the Nevada Health Division server.

At this time we have four years of data available to the public (1993-1997). The data for 1998 has been published to our test system and we are ensuring accuracy of the outcome at this time. We are running the Fertility, Low Birth Weight, Teen Pregnancy and Prenatal Care modules at this time.

**ATTACHMENT A**  
**UNIVERSITY OF NEVADA SCHOOL OF MEDICINE**  
**Office of Primary Care Research, Education and Service (OPCRES)**

The Nevada State Health Division's Nevada All Kids Count (AKC), and the Information Network for Public Health Officials (INPHO) Projects are collaborating with the University of Nevada School of Medicine, Office of Primary Care Research, Education and Service (OPCRES), to develop and perform an evaluation of the AKC Immunization registry's performance. OPCRES will also work with the Nevada AKC and INPHO Projects to formulate measurable outcomes and performance goals for each project. OPCRES will provide written guidelines that support the Continuous Quality Improvement (CQI) process and will assist in the initial development of this process by evaluating both projects for accessibility, accuracy, usability, and impact on an ongoing basis.

Since the evaluation process is closely linked to the development of the Management Information Services (MIS) structure of the INPHO project, it is expected that OPCRES will establish and sustain a working relationship with Nevada Immunization Coalition members for the duration of the grant period. All evaluation activities will be conducted in collaboration with the Statewide Immunization Group (SIG) and the Statewide Data Group (SDG). The ultimate goal of the evaluation study is to determine how Internet access to public health information improves public health overall.

The tasks and services to be provided by OPCRES under the inter-local agreement are:

- Assist with development of the MIS organizational structure of the INPHO Project.
- Create a list of Immunization Registry users (prioritized by system usage) as it relates to the existing INPHO and AKC registry network.
- Identify other users of the Nevada AKC Immunization Registry for inclusion in needs and utilization analysis.
- Define the organizational framework for the information network, formation of organizing bodies, and documentation of organizational functions.
- Create a prioritized list of users' needs and utilization patterns of the immunization registry.
- Assess immunization registry outcomes in the context of participants' needs. This assessment will include an initial evaluation of registry data flow, quality and specific recommendations for ongoing measurement and improvement of data flow and quality.
- Define the value-adding functions performed for participants by the Nevada AKC Immunization Registry and owners of public health databases.
- Measure the current cost and resources base for the immunization registry.
- Recommend future resource development to ensure sustainability of the Immunization Registry.
- Define a collaborative CQI process for the Immunization Registry and develop future registry outcomes and performance goals in collaboration with the Statewide Immunization Group.
- Establish and build the Statewide Data Group (SDG) committee to encompass all owners of public health information data. OPCRES will also coordinate with this group to set policy and procedures to enhance communication and data transfer among users.
- Document the evaluation process and collaborate with the Statewide Immunization Group (SIG) and Statewide Data Group (SDG) to establish a plan for continuous quality improvement and resource development to ensure sustainability of the Immunization Registry.
- Design an on-going evaluation mechanism for the Nevada INPHO project web site. The Nevada INPHO web site accessibility will be evaluated on a periodic basis, as determined by the SDG committee, using the evaluation parameters suggested by the Public Health Commission of Canada, that is utilized to evaluate Canadian government web pages. This tool rates web sites for design consistency, including visualization of web graphics, consistent performance of links, frame (screen) format, e-mail, general usability, appearance of the web site, and usability of the web site by diverse users with various levels of ability.
- Develop a random pop-up questionnaire for sampling user opinions on the Nevada INPHO web site.
- Evaluate the accuracy of information presented on the Nevada INPHO web site by studying the results of the random surveys and by objective evaluation of a quarterly sample of data by the UNR evaluation team. The data will be evaluated with a rating scale that assesses utility, completeness, accuracy, and compliance with security and confidentiality policies. Measures that assess the impact of Nevada INPHO on the health of Nevada's citizens will be developed by OPCRES after a random sample of Nevada INPHO users are analyzed. Periodic surveys of Nevada INPHO users will be done as directed by the SDG to assess the use of INPHO databases. This information will be used to plan health service delivery, evaluate the impact of health programs on the population, and to provide data for health policy.

The above tasks and services will be documented and provided in the following:

1. THE OFFICE AGREES TO PROVIDE THE FOLLOWING DELIVERABLES TO THE STATE HEALTH DIVISION:

  - a. A Management Information Services (MIS) Focus Group Report that defines the key MIS participants in the Projects and build on the existing Statewide Immunization Coalitions (Clark and Washoe County Health Districts) structure to establish an MIS organizational structure for the Immunization Registry and SDG for the INPHO Project.
  - b. An Administrative Focus Group Report: Meet with key leaders individually to design a strategic planning process. Conduct a series of meetings for strategic purposes. Strategic initiatives will be addressed in the quarterly reports.
  - c. A Utilization, Cost, and Resource (UCR) Study that examines the participants' needs for the Immunization Registry, the current utilization of the Immunization Registry, and the cost and resource base supporting the Immunization Registry. The study will define value-adding opportunities for Immunization Registry participants and recommend alternative methods to establish a sustainable resource base for the Immunization Registry. This report will serve as a formative document and will be addressed in quarterly reports. The final report will be included in the final project summary report.
  - d. Quarterly Evaluation Reports that track a collaborative Continuous Quality Improvement (CQI) process, define Immunization Registry quality targets, and measure the achievement of these targets by quantitatively or qualitatively valid methods. This is an analysis model by Certo and Peter for attainment of mutual goals and objectives.

    - > A Quarterly Evaluation Report to be delivered May 1, 1999.
    - > Other reports will follow the quarterly schedule.
  - e. Statewide Immunization Group (SIG) Reports - Develop and facilitate the data committee for the Nevada INPHO Project. This will include the piloting of the project utilizing the existing statewide immunization group and will evolve into a statewide data committee to set standards, monitor the progress of web development, and establish policy. Information from focus groups conducted during the past year will be used in developing the new Statewide Data Group (SDG) plan.
  - f. Web Activity Reports - Review all previous project activities and strategically plan for proceeding with the development of the web site, the web site policy committee (part of the SDG), and ongoing web evaluation. The contractor will convene various groups to insure data quality, data standards, review and recommendations for data security and confidentiality procedures, and other sustainability issues of the Nevada INPHO Project.
  - g. Non-Competing Contractor Application - The CQI Process and Evaluation Section summarizing the core process and evaluation deliverables will be prepared to complement the state application. This portion involves the summary of quarterly reports that will be included in our annual progress reports to be submitted to the National AHC and INPHO Projects (Grantees).
  - h. Facilitation and Advisory Services that contribute to shaping and optimizing project goals, objectives, and outcomes will be provided throughout the contract period.
  - i. Final Project Summary Reports that summarize the Immunization Registry and INPHO projects, document the functionality of the SDG and SIG, define the CQI evaluation framework and activities, and recommend actions for sustaining the Immunization Registry, data security and confidentiality procedures, web development, and statewide data policy and standards as it relates to public health information.
2. To adhere to the following schedule of deliverables:

> Quarterly Evaluation Reports and UCR Study Updates	May 1, 1999 July 1, 1999 September 1, 1999 December 1, 1999 March 1, 2000
> AKC Final Evaluation Report and UCR Study Update	July 1, 2000
> Quarterly Evaluation Reports and UCR Study Updates	September 1, 2000 December 1, 2000
> INPHO Final Evaluation Report and UCR Study Update	March 31, 2001

**THE HEALTH DIVISION AGREES:**

1. To pay the UNIVERSITY OF NEVADA SCHOOL OF MEDICINE \$70,000 over the course of this contract in eight quarterly payments of up to \$8,750. This will depend upon contract deliverables being met, as agreed and stated in this attachment.

**THE UNIVERSITY OF NEVADA SCHOOL OF MEDICINE AND THE HEALTH DIVISION AGREE:**

1. This contract is contingent upon the availability of state and federal funds.
2. Nothing in this contract shall be deemed to authorize the UNIVERSITY OF NEVADA SCHOOL OF MEDICINE to expend additional state and/or federal funds in pursuit of this contract without prior written approval of the HEALTH DIVISION.